Business continuity and Covid-19 pandemic responses on micro-businesses in Surabaya

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ABSTRACT: Business continuity and COVID-19 pandemic response are needed for micro-businesses to deal with these unexpected conditions. The purpose of this study is to determine the COVID-19 pandemic response and suggest a suitable BCP design for micro-businesses in Dolly Ex-localization for anticipating the impact of the pandemic. This research was conducted using a qualitative research approach based on a case study. The results showed that there was no structured planning in dealing with business crises for micro-businesses at Dolly Ex-localization. There are four main risks that are being faced; two of them are at a high level and the other two at a moderate level. Thus, a BCP design that is suitable for them is expected to be useful to minimize all the impacts and risks, to maintain the continuity of critical business processes, and to increase the ability of micro-businesses to recover after crisis and disruption as soon as possible.

1 INTRODUCTION

The rapid spread of the COVID-19 outbreak had an impact on the economy in Indonesia. Appeals for social distancing, physical distancing, working, studying, and worshipping at home, and prohibiting activities that cause crowds certainly hampered the economy. Unlike the previous crisis, micro-business became the foundation for the survival of Indonesian economy. The micro-business is the most affected sector during the COVID-19 pandemic. Based on the results of a survey conducted by a number of institutions and the Ministry of MSMEs, the COVID-19 outbreak had major impacts on the sustainability of MSMEs. This is because the micro-business sector targets the economic cycle of middle to lower class people, whose activities were limited when COVID-19 spread. In fact, the number of micro-business and their contribution to the Indonesian economy is enormous.

This phenomenon is also experienced by micro-business at the Dolly Ex-localization area. Micro-business are the main sector that the Surabaya City Government and GMH Foundation, who act as government partners, to revive the economy in the region after Dolly's closure. Some micro-businesses have even become icons of changes to Dolly Ex-localization, including Samijali, Orumy, and Tempe Bang Jarwo (www.detik.com). These three micro-businesses are also assisted by GMH, which are also the objects of this research.

The purpose of this research is to find out the response of micro-business at Dolly Ex-localization in facing the COVID-19 pandemic and to provide a design of suitable business continuity plan (BCP) for micro-business at Dolly Ex-localization. The objective of BCP is to reduce financial risk and improve the organization's ability to recover as soon as possible from a disruptive event (Broto, 2010). In the next section, we will discuss about their anticipations and risks that may potentially occur, as references for designing the BCP.

2 METHODS

The research method used in this research is qualitative based on a case study. The types and sources of data used are as follows: 1) organizational archive records related with informants;

2) documentation and the results of interview reports conducted by researchers with informants at Dolly Ex-localization. Then, the election of the informant in this study is done using purposive sampling. The specific criteria used in this study are micro-business located at the Dolly Ex-localization area under GMH's development. The focus of this research is to explore all information related to business continuity and pandemic responses that were exhibited by micro-businesses in Dolly Ex-Localization. Then, it can be the basis for designing a business continuity plan and pandemic responses that suitable for them.

According to Qintarah, in the research of Safi'i et al. (2020), the results of the respondents' answers were processed using a risk assessment matrix. This is to determine the limit between acceptable risk and unacceptable risk. This step is carried out by assessing the probability of an event occurring (probability) and the impact of the event (impact) on each identified risk. The levels of probability and impact are divided into high, medium, and low, as explained by Marriet (1999). The answers from respondents for the risk items of probability and impact are summed, and the median value is calculated with the following equation (Safi'i, et al., 2020):

$$Me = x \frac{(n + 1)}{2} \quad (1)$$

where Me = Median; n = sum; x = data value.

After the assessment was carried out, the calculation process was then carried out into a matrix by multiplying the results of the impact and the probability for each risk (Safi'i, et al., 2020):

$$\text{Risk} = \text{Impact} \times \text{Probability} \quad (2)$$

As for the classification of the risk level criteria are divided into 3 zones: (1) high in the red zone if the risk score is $4 \leq X \leq 9$, then action is needed to control the risk; (2) medium in the yellow zone if the risk score is $2 \leq X \leq 3$, it is advisable to take action if resources are available; (3) low in the green zone if the risk score is 1, then in this zone, there is no need to take action because it is still acceptable.

After the data were collected, business impact assessment will be carried out to create the business impact analysis matrix. According to Santoso and Gitarini (2017), the business impact analysis matrix includes information about business processes and the impact that they caused. In this case, Santoso and Gitarini (2017) use the level severity of impact and maximum acceptable outage time (MAOT), which is the maximum duration of time to stop operations before affecting operations or causing an insurmountable impact for each business process.

According to Santoso and Gitarini (2017), the classification of MAOT is as follows: a score of 1.0 ($\text{MAOT} \leq 2$ days); 0.8 ($3 \leq \text{MAOT} < 6$ days); 0.6 ($6 \leq \text{MAOT} < 11$ days); 0.3 ($11 \leq \text{MAOT} < 14$ days); and 0.1 ($\text{MAOT} \geq 14$ days). Furthermore, the calculation process is carried out into a matrix by multiplying the results of the severity impact and MAOT on each business process and obtaining an overall critical rating.

$$\text{OCR} = \text{SOI} \times \text{MAOT} \quad (3)$$

where OCR = overall critical rating; SOI = value of effect level severity of impact; MAOT = maximum acceptable outage time.

The critical categorization is divided into 3 zones: (1) high if the score is $70 \leq X \leq 100$; (2) medium if the score is $40 \leq X < 70$; and (3) low if the score is < 40 .

3 RESULT AND DISCUSSION

Interviews were conducted with five people with predefined respondent criteria through an online forum group discussion with a semi-structured interview guide. The purpose of interview questions in this study was to explore the views, experiences, and expectations of research subjects related to

the design of a business continuity plan that is suitable to the needs of the micro-business at dolly ex-localization.

The results of interviews and observations with 3 informants of the micro-business and the representative of GMH foundation can identify several risks due to the COVID-19 pandemic, including the following:

1. Risk of cost: This risk is associated with increasing costs and decreasing income of the micro-business during the COVID-19 pandemic. The risk of decreasing income (costs) on average is IDR 4–6 million, which is at the medium level (2), with its impact on the high level (3). Hence, the value of the risk matrix is $\text{Impact} \times \text{Probability} = 3 \times 2 = 6$.
2. Risk of delay: This risk is associated with a delay in production time from before the COVID-19 pandemic. The risk of slowing down the production time (schedule) leads to 1–2 days delay on average, which is at the low level (1), with its impact on the high level (3). Hence, the value of the risk matrix is $\text{Impact} \times \text{Probability} = 3 \times 1 = 3$.
3. Risk of production: The risk is associated with the decreasing amount of production in micro-business. The risk of the reducing amount of production is 25–50%, which is at the medium level (2), with its impact at the high level (3). Hence, the value of the risk matrix is $\text{Impact} \times \text{Probability} = 3 \times 2 = 6$.
4. Risk of raw material: This risk is regarding the increase in prices of main raw materials for the micro-business. The risk of raw materials results in a price increase of 10–40% from the normal price, which is at the low level (1), with its impact on the medium level (2). Hence, the value of the risk matrix is $\text{Impact} \times \text{Probability} = 2 \times 1 = 2$.

Further analysis is focused only on the risk value of more than or equal to 2, which are those in the red and yellow zones that occur at the micro-business. These risks include the risk of decreased income and decreased production amount with a matrix value of 6, the risk of delay in production time (schedule) with a matrix value of 3, and the risk of raw material with a matrix value of 2. Thus, the four risks mentioned above need to be taken into further consideration because they already have an impact on the business.

In this study, the level effects were 1 (minor aspect of organization, severity 10); 2 (moderate aspect in one unit or division, severity 25); 3 (moderate aspect of the organization or many divisions, severity 60); 4 (catastrophic aspect in one unit or division, severity 80); and 5 (catastrophic aspects of the entire organization, severity 100). Furthermore, identification of the maximum acceptable outage time (MAOT), the maximum duration of operational shutdown is carried out before affecting operations or causing irreversible impacts for each business process. The MAOT classification used is 1.0 ($\text{MAOT} \leq 2$ days); 0.8 ($3 \leq \text{MAOT} < 6$ days); 0.6 ($6 \leq \text{MAOT} < 11$ days); 0.3 ($11 \leq \text{MAOT} < 14$ days); and 0.1 ($\text{MAOT} \geq 14$ days).

The business impact analysis matrix table aims to determine the critical level of each business process in micro-business at Dolly Ex-localization. From the table, it appears that most of the business processes are in the medium and high categories, including the process of receiving orders, the process of purchasing raw materials, the production process, the packaging process, and the shipping process. This shows that every business process of the micro-business has a fairly strong dependency relationship. Only one business process is in the low category, which is the weekly evaluation process.

Furthermore, the recovery target time scale describes the time scale for the business recovery target of micro-business at Dolly's Ex-localization returning to its original condition. Some business processes, even though they are classified as a high critical level (order acceptance process, raw material purchasing process, production process, packaging process, and shipping process), can be placed in the category of recovery time of less than 7 days. Meanwhile, the weekly evaluation business process is classified as a low critical level process.

To reduce the risk of deeper losses for the micro-businesses due to the COVID-19 pandemic, their COVID-19 pandemic response has been studied. From the results of the COVID-19 pandemic response checklist, it was understood that out of the total of 19 points, only 2 points have been done

by them, 7 points are still in progress, and there are 10 points that have not been done in response to the COVID-19 pandemic. So, it can be concluded that micro-businesses at Dolly Ex-localization, Surabaya, do not yet have a good response and follow-up plan in dealing with the COVID-19 pandemic.

In the initial stage of the recovery plan, use of the BIA that has been made previously is required. At this stage, BIA is used to identify and record the minimum resource requirements that are needed for business operations. By implementing this plan, businesses can determine the important resources that are needed for the company's business activities to run normally. In this study, the identification of short-term and long-term resources needs to be carried out because this pandemic has been going on for 9 months since March 2020.

After identifying minimum short-term and long-term resource requirements, the next step is to explore recovery strategy options to reduce risks and speed up recovery, that is, rebudgeting strategy, safety cash strategy, monitoring and stock opname, backup documentation strategy, new market penetration strategy, media and communication, and then resize and repackaging strategy.

4 CONCLUSION

From the results of this study, it can be concluded that the design of a business continuity plan is needed for micro-businesses at Dolly Ex-localization to face unexpected conditions that can affect their business activities. From the results of the COVID-19 pandemic response checklist, it can be concluded that they do not yet have a good response and follow-up plan in dealing with the COVID-19 pandemic. The purpose of designing the BCP in this study is to provide views to micro-businesses in Dolly Ex-localization in anticipating and responding to the impact of COVID-19 on their activities, which may need to be done at the earliest in the next 6 months, considering that the COVID-19 cases in Indonesia have not decreased until now. The stages of BCP design for micro-businesses at Dolly Ex-localization are risk analysis, business impact analysis, incident response plan, recovery plan, review, and BCP approval.

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